CLAIMS

1. A method for managing execution of operations performed on media data by selected ones of a plurality of media servers of a network, the process comprising the steps of:

at a node of the network, receiving information input by the user specifying a selected one of the media servers for scheduling operations to be performed;

at said node, displaying graphical information indicative of a current local time at said selected media server.

2. A method as recited in claim 1 wherein said node is an administrator terminal, the method further comprising the steps of:

displaying a graphical user interface at the administrator terminal, the interface including a plurality of interface components enabling a user to specify and schedule operations to be performed by selected ones of the media servers; and

receiving information input by the user specifying an operation to be performed by the selected media server, and a schedule for performing the operation.

3. A method as recited in claim 2 wherein each of the media servers is capable of accessing at least one corresponding memory device for storing media data, and wherein said interface components include a source selection interface component enabling the user to select a source location by browsing a list of available locations including predetermined mapped ones of the media servers and predetermined mapped ones of the memory devices, and wherein if the selected source location is a memory device, then said selected server is a media server corresponding with the selected memory device.

4. A method as recited in claim 1 wherein the network is an internet protocol (IP) network.

5. A method as recited in claim 2 wherein the administrator terminal also includes a processing unit, a browser application executed by the processing unit, and a display unit, and wherein said process is initiated by performing the steps of:

transmitting an applet to the administrator terminal via the network; and

executing said applet over the processing unit of the administrator terminal;

whereby said graphical user interface is displayed within a browser window generated by said browser application on the display unit.

6. A method as recited in claim 2 wherein the network further includes a plurality of end user terminals communicatively coupled to the administrator terminal and to the servers, each of the servers being further operative to stream media data to selected ones of the end user terminals, and wherein at least one of the media servers is further operative to encode media data received from a corresponding multimedia device, and wherein said operations include:

multicasting operations for streaming portions of media data from selected ones of the media servers to selected ones of the end user terminals via the network; and

encoding operations for encoding media data received by selected ones of the media servers.

7. A method as recited in claim 3 wherein the media operations include copy operations for copying selected portions of media data from selected source locations in the network to selected

destination locations in the network, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying a source selection interface component enabling the user to select a source location by browsing a list of available locations including predetermined mapped ones of the media servers and predetermined ones of the memory devices;

receiving information input by the user indicative of a selected source location;

displaying an asset selection interface component enabling the user to select a portion of media data from a list of portions of media data stored at said selected source location;

receiving information input by the user indicative of a selected portion of media data;

determining a corresponding list of possible destination locations associated with said selected source location; and

displaying a destination selection interface component enabling the user to select a destination location from said corresponding list of possible destination locations.

8. A method as recited in claim 7 wherein said steps of displaying a graphical user interface, receiving information, and generating commands further comprise the steps of:

displaying scheduled copying interface components enabling the user to select a start time and a start date for a scheduled copying operation;

receiving information input by the user indicative of a selected start time and a selected start date; and

generating a copy command and associated copy parameters for instructing said selected media server to copy said selected portion of media data from said selected source location to said selected destination location at said selected start time on said selected start date.

9. A method as recited in claim 2 wherein the network further includes at least one multimedia device operative to generate media data, each of the multimedia devices being communicatively coupled with a corresponding encoder one of the media servers which is further operative to selectively activate the corresponding multimedia device, and further operative to encode a selected portion of media data generated by the multimedia device, and wherein the operations include encoding operations, and wherein said information input by the user includes encoding operation information indicative of a selected server and a corresponding selected multimedia device, and wherein said commands and associated parameters include an encoding command and associated encoding parameters for instructing said selected server to encode media data received from said selected media device.

10. A method as recited in claim 9 wherein said steps of displaying a graphical user interface, receiving information, and generating commands further comprise the steps of:

displaying scheduled encoding interface components enabling the user to select a start time and a start date for a scheduled encoding operation;

receiving information input by the user indicative of a selected start time and a selected start date for initiating the scheduled encoding operation; and

generating encoding commands and associated encoding parameters for instructing said selected media server to encode media data received from said selected multimedia device at said selected start time on said selected start date.

11. A method as recited in claim 10 wherein said steps of displaying scheduled encoding interface components, and receiving information further comprise the steps of:

displaying duration interface components enabling the user to select from time duration specification options including,

a first option of selecting a scheduled stop date and stop time for terminating said encoding operation, and

a second option of selecting a time duration for which said scheduled encoding operation is to continue following said selected start time on said selected start date; and

receiving information input by the user indicative of a selected time duration specification option.

12. A method as recited in claim 11 wherein said operations further include recording operations for recording selected portions of encoded media data that are encoded during an encoding operation, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying a record-to selection interface component enabling the user to select a storage location from a list of available storage locations including predetermined mapped ones of at least one memory device associated with said selected server; and

receiving information input by the user indicative of the selected storage location;

wherein said commands and associated parameters further include a record command and associated record parameters for instructing said selected server to store the encoded media data at said selected storage location.

13. A method as recited in claim 12 wherein said operations further include playback operations for streaming the stored portion of encoded media data from said selected server to corresponding selected ones of the end user terminals via the network, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying playback destination selection interface components enabling the user to select at least one of the end user terminals as a destination for streaming said encoded portion of media data;

receiving information input by the user indicative of at least one selected end user;

displaying play-back schedule interface components enabling the user to define a play-back schedule; and

receiving information input by the user indicative of a user defined play-back schedule;

wherein said commands and associated parameters further instruct said selected server to stream said stored portion of encoded media data to said selected end users via the network in accordance with said play-back schedule.

14. A method as recited in claim 13 wherein said play-back schedule interface components comprise:

a first group of components enabling the user to select a start time and a start date for said play-back schedule; and

a second group of components enabling the user to select from a plurality of options for specifying a play-back schedule duration.

15. A method as recited in claim 14 wherein said options for specifying a playback schedule duration comprise:

a first option of specifying a loop count value for repeating the streaming of said stored portion of media data a number of times equal to the loop count value;

a second option of specifying a repeat schedule wherein said streaming of said stored portion of media data is repeated until the stored portion of media data is removed from a schedule list; and

a third option of specifying an interval schedule wherein said streaming of said stored portion of media data is performed in accordance with a user defined schedule.

16. A method as recited in claim 13 wherein said operations further include notification operations associated with corresponding ones of the playback operations, said notification operations for sending notification messages to selected network addresses associated with selected ones of the end user terminals and the administrator terminal.

17. A method as recited in claim 2 wherein said operations further include multicasting operations for streaming selected portions of media data from selected media servers to corresponding selected ones of a plurality of end user terminals via the network, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying multicasting destination selection interface components enabling the user to select at least one of the end user terminals as a destination for multicasting said selected portion of media data in accordance with a user defined multicasting schedule;

displaying multicasting schedule interface components enabling the user to define a multicasting schedule; and

receiving information input by the user indicative a user defined multicasting schedule;

wherein said commands and associated parameters further include a multicasting command and associated multicasting parameters for instructing said selected media server to stream said selected portion of media data to said selected end users via the network in accordance with said multicasting schedule.

18. A method as recited in claim 17 wherein said multicasting schedule interface components comprise:

a first group of components enabling the user to select a start time and a start date for a multicasting schedule; and

a second group of components enabling the user to select from a plurality of options for specifying a multicasting schedule duration.

19. A machine readable storage device having stored therein encoding instructions for executing a process of managing execution of operations performed on media data by selected ones of a plurality of media servers of a network, the process comprising the steps of:

at a node of the network, receiving information input by the user specifying a selected one of the media servers for scheduling operations to be performed;

at said node, displaying graphical information indicative of a current local time at said selected media server.

20. A machine readable storage device as recited in claim 19 wherein said node is an administrator terminal, the method further comprising the steps of:

displaying a graphical user interface at the administrator terminal, the interface including a plurality of interface components enabling a user to specify and schedule operations to be performed by selected ones of the media servers; and

receiving information input by the user specifying an operation to be performed by the selected media server, and a schedule for performing the operation.

21. A machine readable storage device as recited in claim 20 wherein each of the media servers is capable of accessing at least one corresponding memory device for storing media data, and wherein said interface components include a source selection interface component enabling the user to select a source location by browsing a list of available locations including predetermined mapped ones of the media servers and predetermined mapped ones of the memory devices, and wherein if the selected source location is a memory device, then said selected server is a media server corresponding with the selected memory device.

22. A machine readable storage device as recited in claim 19 wherein the network is an internet protocol (IP) network.

23. A machine readable storage device as recited in claim 20 wherein the administrator terminal also includes a processing unit, a browser application executed by the processing unit, and a display unit, and wherein said process is initiated by performing the steps of:

transmitting an applet to the administrator terminal via the network; and

executing said applet over the processing unit of the administrator terminal;

whereby said graphical user interface is displayed within a browser window generated by said browser application on the display unit.

24. A machine readable storage device as recited in claim 20 wherein the network further includes a plurality of end user terminals communicatively coupled to the administrator terminal and to the servers, each of the servers being further operative to stream media data to selected ones of the end user terminals, and wherein at least one of the media servers is further operative to encode media data received from a corresponding multimedia device, and wherein said operations include:

multicasting operations for streaming portions of media data from selected ones of the media servers to selected ones of the end user terminals via the network; and

encoding operations for encoding media data received by selected ones of the media servers.

25. A machine readable storage device as recited in claim 21 wherein the media operations include copy operations for copying selected portions of media data from selected source locations in the network to selected destination locations in the network, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying a source selection interface component enabling the user to select a source location by browsing a list of available locations including predetermined mapped ones of the media servers and predetermined ones of the memory devices;

receiving information input by the user indicative of a selected source location;

displaying an asset selection interface component enabling the user to select a portion of media data from a list of portions of media data stored at said selected source location;

receiving information input by the user indicative of a selected portion of media data;

determining a corresponding list of possible destination locations associated with said selected source location; and

displaying a destination selection interface component enabling the user to select a destination location from said corresponding list of possible destination locations.

26. A machine readable storage device as recited in claim 25 wherein said steps of displaying a graphical user interface, receiving information, and generating commands further comprise the steps of:

displaying scheduled copying interface components enabling the user to select a start time and a start date for a scheduled copying operation;

receiving information input by the user indicative of a selected start time and a selected start date; and

generating a copy command and associated copy parameters for instructing said selected media server to copy said selected portion of media data from said selected source location to said selected destination location at said selected start time on said selected start date.

27. A machine readable storage device as recited in claim 20 wherein the network further includes at least one multimedia device operative to generate media data, each of the multimedia devices being communicatively coupled with a corresponding encoder one of the media servers

which is further operative to selectively activate the corresponding multimedia device, and further operative to encode a selected portion of media data generated by the multimedia device, and wherein the operations include encoding operations, and wherein said information input by the user includes encoding operation information indicative of a selected server and a corresponding selected multimedia device, and wherein said commands and associated parameters include an encoding command and associated encoding parameters for instructing said selected server to encode media data received from said selected media device.

28. A machine readable storage device as recited in claim 27 wherein said steps of displaying a graphical user interface, receiving information, and generating commands further comprise the steps of:

displaying scheduled encoding interface components enabling the user to select a start time and a start date for a scheduled encoding operation;

receiving information input by the user indicative of a selected start time and a selected start date for initiating the scheduled encoding operation; and

generating encoding commands and associated encoding parameters for instructing said selected media server to encode media data received from said selected multimedia device at said selected start time on said selected start date.

29. A machine readable storage device as recited in claim 28 wherein said steps of displaying scheduled encoding interface components, and receiving information further comprise the steps of:

displaying duration interface components enabling the user to select from time duration specification options including,

a first option of selecting a scheduled stop date and stop time for terminating said encoding operation, and

a second option of selecting a time duration for which said scheduled encoding operation is to continue following said selected start time on said selected start date; and

receiving information input by the user indicative of a selected time duration specification option.

30. A machine readable storage device as recited in claim 29 wherein said operations further include recording operations for recording selected portions of encoded media data that are encoded during an encoding operation, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying a record-to selection interface component enabling the user to select a storage location from a list of available storage locations including predetermined mapped ones of at least one memory device associated with said selected server; and

receiving information input by the user indicative of the selected storage location;

wherein said commands and associated parameters further include a record command and associated record parameters for instructing said selected server to store the encoded media data at said selected storage location.

31. A machine readable storage device as recited in claim 30 wherein said operations further include playback operations for streaming the stored portion of encoded media data from said selected server to corresponding selected ones of the end user terminals via the network, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying playback destination selection interface components enabling the user to select at least one of the end user terminals as a destination for streaming said encoded portion of media data;

receiving information input by the user indicative of at least one selected end user;

displaying play-back schedule interface components enabling the user to define a play-back schedule; and

receiving information input by the user indicative of a user defined play-back schedule;

wherein said commands and associated parameters further instruct said selected server to stream said stored portion of encoded media data to said selected end users via the network in accordance with said play-back schedule.

32. A machine readable storage device as recited in claim 31 wherein said play-back schedule interface components comprise:

a first group of components enabling the user to select a start time and a start date for said play-back schedule; and

a second group of components enabling the user to select from a plurality of options for specifying a play-back schedule duration.

33. A machine readable storage device as recited in claim 32 wherein said options for specifying a playback schedule duration comprise:

a first option of specifying a loop count value for repeating the streaming of said stored portion of media data a number of times equal to the loop count value;

a second option of specifying a repeat schedule wherein said streaming of said stored portion of media data is repeated until the stored portion of media data is removed from a schedule list; and

a third option of specifying an interval schedule wherein said streaming of said stored portion of media data is performed in accordance with a user defined schedule.

34. A machine readable storage device as recited in claim 31 wherein said operations further include notification operations associated with corresponding ones of the playback operations, said notification operations for sending notification messages to selected network addresses associated with selected ones of the end user terminals and the administrator terminal.

35. A machine readable storage device as recited in claim 20 wherein said operations further include multicasting operations for streaming selected portions of media data from selected media servers to corresponding selected ones of a plurality of end user terminals via the network, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying multicasting destination selection interface components enabling the user to select at least one of the end user terminals as a destination for multicasting said selected portion of media data in accordance with a user defined multicasting schedule;

displaying multicasting schedule interface components enabling the user to define a multicasting schedule; and

receiving information input by the user indicative a user defined multicasting schedule;

wherein said commands and associated parameters further include a multicasting command and associated multicasting parameters for instructing said selected media server to stream said selected portion of media data to said selected end users via the network in accordance with said multicasting schedule.

36. A machine readable storage device as recited in claim 35 wherein said multicasting schedule interface components comprise:

a first group of components enabling the user to select a start time and a start date for a multicasting schedule; and

a second group of components enabling the user to select from a plurality of options for specifying a multicasting schedule duration.

37. A server operative to provide an applet to a client via a network, the applet including encoding instructions for executing a process of managing execution of operations performed on media data by selected ones of a plurality of media servers of a network, the process comprising the steps of:

at the client, receiving information input by the user specifying a selected one of the media servers for scheduling operations to be performed;

at the client, displaying graphical information indicative of a current local time at said selected media server.

38. A server as recited in claim 37 further comprising the steps of:

displaying a graphical user interface at the client, the interface including a plurality of interface components enabling a user to specify and schedule operations to be performed by selected ones of the media servers; and

receiving information input by the user specifying an operation to be performed by the selected media server, and a schedule for performing the operation.

39. A server as recited in claim 38 wherein each of the media servers is capable of accessing at least one corresponding memory device for storing media data, and wherein said interface components include a source selection interface component enabling the user to select a source location by browsing a list of available locations including predetermined mapped ones of the media servers and predetermined mapped ones of the memory devices, and wherein if the selected source location is a memory device, then said selected media server is a media server corresponding with the selected memory device.

40. A server as recited in claim 37 wherein the network is an internet protocol (IP) network.

41. A server as recited in claim 38 wherein the network further includes a plurality of end user terminals communicatively coupled to the client and to the media servers, each of the media servers being further operative to stream media data to selected ones of the end user terminals, and wherein at least one of the media servers is further operative to encode media data received from a corresponding multimedia device, and wherein said operations include:

multicasting operations for streaming portions of media data from selected ones of the media servers to selected ones of the end user terminals via the network; and

encoding operations for encoding media data received by selected ones of the media servers.

42. A server as recited in claim 39 wherein the media operations include copy operations for copying selected portions of media data from selected source locations in the network to selected destination locations in the network, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying a source selection interface component enabling the user to select a source location by browsing a list of available locations including predetermined mapped ones of the media servers and predetermined ones of the memory devices;

receiving information input by the user indicative of a selected source location;

displaying an asset selection interface component enabling the user to select a portion of media data from a list of portions of media data stored at said selected source location;

receiving information input by the user indicative of a selected portion of media data;

determining a corresponding list of possible destination locations associated with said selected source location; and

displaying a destination selection interface component enabling the user to select a destination location from said corresponding list of possible destination locations.

43. A server as recited in claim 42 wherein said steps of displaying a graphical user interface, receiving information, and generating commands further comprise the steps of:

displaying scheduled copying interface components enabling the user to select a start time and a start date for a scheduled copying operation;

receiving information input by the user indicative of a selected start time and a selected start date; and

generating a copy command and associated copy parameters for instructing said selected media server to copy said selected portion of media data from said selected source location to said selected destination location at said selected start time on said selected start date.

44. A server as recited in claim 38 wherein the network further includes at least one multimedia device operative to generate media data, each of the multimedia devices being communicatively coupled with a corresponding encoder one of the media servers which is further operative to selectively activate the corresponding multimedia device, and further operative to encode a selected portion of media data generated by the multimedia device, and wherein the operations include encoding operations, and wherein said information input by the user includes encoding operation information indicative of a selected media server and a corresponding selected multimedia device, and wherein said commands and associated parameters include an encoding command and associated encoding parameters for instructing said selected media server to encode media data received from said selected media device.

45. A server as recited in claim 44 wherein said steps of displaying a graphical user interface, receiving information, and generating commands further comprise the steps of:

displaying scheduled encoding interface components enabling the user to select a start time and a start date for a scheduled encoding operation;

receiving information input by the user indicative of a selected start time and a selected start date for initiating the scheduled encoding operation; and

generating encoding commands and associated encoding parameters for instructing said selected media server to encode media data received from said selected multimedia device at said selected start time on said selected start date.

46. A server as recited in claim 45 wherein said steps of displaying scheduled encoding interface components, and receiving information further comprise the steps of:

displaying duration interface components enabling the user to select from time duration specification options including,

a first option of selecting a scheduled stop date and stop time for terminating said encoding operation, and

a second option of selecting a time duration for which said scheduled encoding operation is to continue following said selected start time on said selected start date; and

receiving information input by the user indicative of a selected time duration specification option.

47. A server as recited in claim 46 wherein said operations further include recording operations for recording selected portions of encoded media data that are encoded during an encoding operation, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying a record-to selection interface component enabling the user to select a storage location from a list of available storage locations including predetermined mapped ones of at least one memory device associated with said selected media server; and

receiving information input by the user indicative of the selected storage location;

wherein said commands and associated parameters further include a record command and associated record parameters for instructing said selected media server to store the encoded media data at said selected storage location.

48. A server as recited in claim 47 wherein said operations further include playback operations for streaming the stored portion of encoded media data from said selected media server to corresponding selected ones of the end user terminals via the network, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying playback destination selection interface components enabling the user to select at least one of the end user terminals as a destination for streaming said encoded portion of media data;

receiving information input by the user indicative of at least one selected end user;

displaying play-back schedule interface components enabling the user to define a play-back schedule; and

receiving information input by the user indicative of a user defined play-back schedule;

wherein said commands and associated parameters further instruct said selected media server to stream said stored portion of encoded media data to said selected end users via the network in accordance with said play-back schedule.

49. A server as recited in claim 48 wherein said play-back schedule interface components comprise:

a first group of components enabling the user to select a start time and a start date for said play-back schedule; and

a second group of components enabling the user to select from a plurality of options for specifying a play-back schedule duration.

50. A server as recited in claim 49 wherein said options for specifying a playback schedule duration comprise:

a first option of specifying a loop count value for repeating the streaming of said stored portion of media data a number of times equal to the loop count value;

a second option of specifying a repeat schedule wherein said streaming of said stored portion of media data is repeated until the stored portion of media data is removed from a schedule list; and

a third option of specifying an interval schedule wherein said streaming of said stored portion of media data is performed in accordance with a user defined schedule.

51. A server as recited in claim 48 wherein said operations further include notification operations associated with corresponding ones of the playback operations, said notification operations for sending notification messages to selected network addresses associated with selected ones of the end user terminals and the client.

52. A server as recited in claim 38 wherein said operations further include multicasting operations for streaming selected portions of media data from selected media servers to corresponding selected ones of a plurality of end user terminals via the network, and wherein said steps of displaying a graphical user interface, and receiving information further comprise the steps of:

displaying multicasting destination selection interface components enabling the user to select at least one of the end user terminals as a destination for multicasting said selected portion of media data in accordance with a user defined multicasting schedule;

displaying multicasting schedule interface components enabling the user to define a multicasting schedule; and

receiving information input by the user indicative a user defined multicasting schedule;

wherein said commands and associated parameters further include a multicasting command and associated multicasting parameters for instructing said selected media server to stream said selected portion of media data to said selected end users via the network in accordance with said multicasting schedule.

53. A server as recited in claim 52 wherein said multicasting schedule interface components comprise:

a first group of components enabling the user to select a start time and a start date for a multicasting schedule; and

a second group of components enabling the user to select from a plurality of options for specifying a multicasting schedule duration.